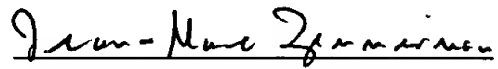


FIGS. 1 and 9-14 have been replaced with new FIGS. 1 and 9A-14-L.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment.

Respectfully submitted,



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VERSIONS WITH MARKINGS TO SHOW CHANGES MADE

Paragraph beginning at page 1, line 1, has been amended as follows:

-- DYNAMIC ARRAY PRESENTATION AND MULTIPLE SELECTION OF
DIGITALLY STORED OBJECTS AND CORRESPONDING LINK TOKENS FOR
SIMULTANEOUS PRESENTATION --

Paragraph beginning at page 1, line 9, has been amended as follows:

-- Contained herein is material that is subject to copyright protection. The copyright owner has no objection to the facsimile reproduction of the patent disclosure by any person, as it appears in the Patent and Trademark Office patent files or records, but otherwise reserves all rights to the copyright whatsoever. -

Paragraph beginning at page 1, line 16, has been amended as follows:

-- The present invention is related to the multiple selection of digitally presented and digitally stored objects (starting objects), and the link-tokens linking the starting objects to additional information, data, and/or related data-entry or transaction mechanisms (destination objects) pertinent to each selected starting object, for simultaneous presentation and examination of the selected starting objects along with their associated linked destination objects/information. The present invention further relates to an organized dynamic array presentation for graphical thumbnails. [Graphical thumbnails are small images that represent data records frequently used in on-line or other viewable recording media (such as CD ROM to represent the objects that are best

represented by the image. Additionally, the present invention provides for sub-framing, which allows intelligent partitioning of information associated with an object.] The term "dynamic" refers to the automatic "self-scrolling" and "user programmable" features of the array-presentation. When the number of elements of a row or a column exceeds what the view-frame of the display-screen or browser can display simultaneously, the row or column begins to scroll through the view-frame as soon as the row (or column is filled). Viewers can program/select what categories are displayed in each row or column, and can control all rows and columns independently.

Graphical thumbnails are small images that represent objects frequently used in on-line or other viewable recording media (such as CD ROM) to represent the objects that are best represented by the image. Additionally, the present invention provides for sub-framing, which allows intelligent partitioning of information associated with an object. --

Paragraph beginning at page 2, line 4, has been amended as follows:

-- The application of hyper text mark up language (HTML), dynamic HTML, scripting languages, such as Java, Common Gateway Interface (CGI), Practical Extraction and Report Language (PERL), Visual Basic Script Language, VBScript, and derivatives thereof, other languages, markup languages, or metalanguages, such as the Standard Generalized Markup Language (SGML - ISO 8879), extensible Markup Language (XML), Cascading Style Sheet (CSS),

Jave, Javascript, Java Speech Markup Language (JSML), and ActiveX allow the static and dynamic presentation and linking of computer stored objects (texts, graphics, icons, parts, items, lists, audio and video segments, etc.) from a container, i.e., a file, a collection of objects, or a "page" of information, to related information and/or other objects and other containers via a software link token. A link token is an addressing pointer, pointing to the memory location of the linked destination). A link token is usually represented by a textstring, an underlined textstring, a bullet in front of a textstring, a color change of a text string, a graphical icon or thumbnail[.]. An "index finger hand" [that] would appear[s] when the cursor is placed on an object that has an embedded link-token[, or the like]. A typical web page can contain numerous link-tokens, but only one link-token can be evoked at a time. When a link token is selected and evoked, for example, by clicking [a] the computer "mouse" left-button while resting the cursor on the object [or] with a link-token [on the computer screen], the Browser would bring forth the destination object, i.e., a webpage that is linked by the link-token, is brought forth from the database or memory bank in the connected storage media and/or networked computers and their storage media[,] that is addressed by the evoked link token[, and]. The Browser then present[ed]s the object for viewing or examination by the [browser] viewer, i.e., the human, device, or computer software that evoked the link-token. The pointing-clicking action to "select" can similarly be performed with a wireless point-click device, such as a light-pen, or other remote input/control device. --

Paragraph beginning at page 3, line 3, has been amended as follows:

-- However, on conventional web sites, selecting the starting object and its associated link-token from a segment of media (e.g., a page of graphics and texts, a list of parts, a segment of video or audio recording) where many objects and link-tokens are present[,] can only be performed one link at a time. When a particular link-token is evoked by clicking the left button of the mouse (a computer input device), or any remote input/control device, while the cursor is resting on the link-token, the destination object is brought forth for viewing or examination from the recording media addressed by the link-token. When one wishes to evoke another link-token on the starting (previous) page, he/she must return to that page by "clicking" the "Back" tool-button on the upper-left corner of the browser screen, to find the next link-token to be evoked. This operation must be done one token at a time, in serial fashion. If more additional objects from the starting page, or segment of media, are of interest, one must return to the segment to make a single selection from the interested objects, and evoke its associated link-token, again, repeatedly, one at a time. Moving forward and backward in segments of media or a series of web pages linked by the link tokens in this manner is a slow, awkward, labor-intensive procedure. FIG. 1A shows a flow chart depicting this process. --

Paragraph beginning at page 3, line 19, has been amended as follows:

-- This procedure/methodology is especially awkward when there are many objects of interest in a particular starting segment, container, or page of media, and when there are multiple links of interest embedded again in the subsequent linked destination pages. The viewing human or examination devices are often taken several link-addressing steps away from the starting segment or page, such as an index list of items of interest, and are taken through multiple branches on a subsequent page. Such multiple branching causes the "Back" button pointer to loop between the two branches, making returning to the [prior] pages[,or the starting page--the index list, for other interested links] prior to the branching difficult, or even impossible. The URL (Universal Resource Locator) addresses of the prior pages and/or starting page must be remembered and entered in the "go to:" URL Address entry box on the B[b]rowser tool-band located at the top of the Browser frame, [screen] to return to the starting page in such situation. --

Paragraph beginning at page 4, line 7, has been amended as follows:

-- FIGS. 2 through 8 show examples of pages from conventional web sites on which digitally stored starting objects are selected one at a time and their associated dynamically linked destination objects are displayed for viewing one at a time. One can only select and evoke a single link, out of the numerous links

present on a web page. To select another object or link of interest from the page, one must return ["Back"] to the page [from], via clicking repeatedly the "Back" button on the Browser tool-band, reversing the path over which one has navigated in the forward direction in following the previously selected links. The color of a selected link or object does not change when placing the cursor on the link, nor when clicking on the link to select and evoke the link. The color change only manifests itself when after having selected and evoked the link, the browser returns "Back" to the page from which the link was selected and evoked. --

Paragraph beginning at page 4, line 17, has been amended as follows:

-- FIGS. 2A-2G show a first example of pages from a conventional web site, i.e., Excite™, [on which] where one can only select a single [one of] item from the 106 luxury cars list[ings]ed [shown] in FIGS. 2A-2F [containing 106 items at] in 20 item segments and six physical "title only" [viewable] pages. By "clicking" the left "mouse" button, while the cursor is resting on the [can be both] selected item, the Browser brings the first level information linked to that item, and displayed for viewing [at a time] as shown in FIG. 2G. Each underlined text string (an object, representing the "title" of a particular luxury car) has one link-token signified by the underline, with a single address pointer, pointing to a web page containing the [detailed] information associated with this particular [luxury car] link. Only one single link (the underlined text string title) can be selected/clicked to bring forth and view the [detail] first level information

associated with this underlined/linked "title", for example, the BMW 740iL from the first listing segment page. If a browser is interested in another three titles from the page, he must return "Back" to this particular listing segment page in order to select one of these three titles, and repeat the procedure three times. It may happen that one is viewing [a] several pages of information [linked] several links deep to a title on the sixth segment page of the listing, and is interested in comparing this title to another two titles in the third segment page, and three titles in the first segment page. To do so, one would need to print the current information pages, one link at a time, and then either remember the uniform resource locator (URL) (i.e., the address) of the third segment, or click the "Back" button [three times on] of the B[b]rowser as many times of the link-levels of the last information page to return to the 6th segment page where the current title locates, and then three more times to get to the third segment, each time clicking a "continue" indicator in a pop-up dialog box that indicates you, i.e., the browser, are submitting information "unsecured". The user must then wait for the uploading of the "unsecured" address to the site-server, and the downloading of the addressed information from the site-server to the desktop computer, to finally reach the third segment to click/select one of the two interested titles on that segment. The user would then need to print the resulting information; click "Back" one time to return to the segment, and click/select the another one title of interest on this segment page; print the resulting information. The user would then click the "Back" button two times, each time waiting for each segment page

to load, to reach the first segment page. Finally the user must then click/select one of the three interested titles, print the resulting information, click the "Back" button one time, wait for the content to load, and repeat the procedure another two times for the remaining two interested titles from the page. If the user wishes to compare more number of items from the 106 item listing, the process becomes even more elaborate. --

Paragraph beginning at page 6, line 1, has been amended as follows:

-- FIGS. 3A-3G show a second example of pages from a conventional web site, ebaY™, on which various categories of items including Star Wars Episode 1 posters and a set of four 650 watt sub woofer stereo speakers shown as underlined text strings on the ebaY™ Home Page in FIG. 3A can be selected and displayed at a time as shown in FIGS. 3B-3G. The invocation of a link-token (represented by the underline) associated with the particular object represented/indexed by the text-string underlined, by clicking the left mouse button while the cursor is brought to the underlined text string title/index of the object, would bring forth the information page linked to this particular object represented by the underlined text string. Second stage links on this (brought forth) page would link to other additional pages containing further information related the particular "featured object." If one is interested in viewing information about another featured object on the ebaY™ Home Page, one must return to the ebaY™ Home Page from wherever the navigation has led the

[browser] viewer, and repeat the process as many times as the number of items that interest the viewer. --

Paragraph beginning at page 6, line 14, has been amended as follows:

-- As will be discussed further with regard to the present invention, the multi-tier information associated with particular items, such as the items listed in FIGS. 3A-3B, is not "sub-framed" to allow a sensible array presentation of such information. Such an array feature as in the present invention, would provide a comparison-shopping capability that is highly desirable and easily comprehensible in one setting with one retrieval process. Yet, conventional systems and methods only enable information about items in a list such to be accessed one-at-a-time, and one-level, one-link-at-a-time. To view other interested items, one must return to scan the list over and over again, at times returning "Back" from many addresses away, which is an arduous, time consuming, and annoying process. --

Paragraph beginning at page 6, line 22, has been amended as follows:

-- Additional examples of pages from conventional web sites on which only a single item from a list of items can be selected and displayed for viewing at a time are shown in: FIGS. 4A-4E₂ which show camera equipment for sale on the ebaY™ web site[,]; FIGS. 5A-5B which show home products for sale on the Yahoo!™ web site[,]; FIGS. 6A-6G which show home design products for sale on

the homeportfolio™ web site[,] FIGS. 7A-7K which show various tiffanysia jewelry items for sale on the ebaY™ web site[,] and FIGS. 8A-8F which show various news headlines from the Microsoft™/National Broadcasting Corporation™ (MSNBC™) news web site. --

Paragraph beginning at page 7, line 7, has been amended as follows:

-- To view multiple headlined news articles listed on the homepage of MSNBC.COM shown in FIGS. 8A-8B, for example, one must select one headline at a time, clicking forward to additional links on follow-on pages, to wherever the article leads through the hierarchy of multiple interested reads/links on subsequent pages. To view another headline article, the browser must click backward as many times from where the previous article has taken him via clicking forward, each time waiting for a page to download, until back to the headline page, to click another interested article on that page. If multiple branches are taken from a page subsequent to the headline page, or a page containing multiple links of interest, the browser is often lost in a loop, and cannot get back out of the loop to return to pages prior to the page from which multiple branching is taken. --

Paragraph beginning at page 8, line 11, has been amended as follows:

-- Additionally, the present invention provides for the organized array presentation of static or dynamically rolling/scrolling graphic thumbnails.

Graphical thumbnails are frequently used in on-line or other viewable recording media (such as CD ROM) to represent objects that are best represented with their images. The invention dynamically presents a large collection of thumbnails in a two-dimensional array with a selectively adjustable number of columns and rows. The present invention provides mechanisms for a user/viewer to select/program each row or column to display thumbnails of a particular category of objects. The present invention also dynamically and automatically scrolls the thumbnails through the display-screen or Browser view-frame, when the content of a particular row(s) or column(s) of thumbnails exceeds (and extends beyond) the displaying capacity of the display-screen or Browser view-frame. This method of presentation allows easy overview, multiple-selection for detailed viewing and examination of multiple objects in the array, easy comparison and further selection (for example for buying/acquiring), and optimized utilization of screen/media real estate. This invention also provides mechanisms for the user/viewer to control the automated scrolling, display larger and more detailed graphics and detailed information of selected thumbnails, and make multiple-selections from the displayed information of a large number of selected objects for further purposes. --

Paragraph beginning at page 8, line 18, has been amended as follows:

-- Finally, the present invention provides for sub-framing. The sub-framing allows intelligent partitioning of information associated with an object

that are typically linked to the object through multiple numbers and levels of links. Dynamic scroll bars in each subframe are used to allow the orderly arraying and presentation of "primarily textual" contents associated with a graphical content to be side-by-side with the graphical content. The textual content may have a length and/or width that are incompatible to the optimal sizing [for] of the graphical content. By sub-framing the graphical content and the textual content of differing nature or subject, the presentation can be arrayed in an orderly manner, using scroll bars to indicate the existence of additional content beyond the viewing area. Furthermore, this invention includes a feature that when the cursor is moved within a sub-frame area, indicating the browser's interest in the content of the sub-frame, the complete content of the sub-frame would be displayed on the computer screen, saving the browser effort that would otherwise be needed in scrolling the scroll bar to view the content contained beyond the viewing area. --

Paragraph beginning at page 9, line 7, has been amended as follows:

-- Furthermore, the present invention allows an array to present thumbnails of differing categories or sub-categories in each row (or column) in the array. For categories that contain more thumbnails than the screen viewing area can accommodate, the [sub-framing of each] rows or columns of such category[y]ies would show horizontal (or vertical) scroll bars to indicate additional content beyond the viewing area. The additional content can be

viewed by manual[ly] or automated scrolling of the scroll bars. The [present invention includes an] automated scrolling feature [that is] of the present invention can automatically commence upon the rows/column's filling the display-screen/Browser view-frame, and when their content exceeds/extends-beyond the display-screen or Browser view-frame. The manner, direction, and speed of scrolling can be controlled and commanded by the [browser] viewer/user, using [the] command buttons provided by this invention. --

Paragraph beginning at page 9, line 16, has been amended as follows:

-- FIG. 1 shows a flow chart illustrating the steps by which digitally stored objects are selected and their associated dynamically linked destination objects displayed for viewing on conventional (known-art) web sites.

FIGS. 2A-2G show a first example of pages from a conventional (known-art) web site, Excite.com, on which objects are both selected and displayed for viewing one at a time.

FIG. 3A-3G shows a second example of pages from a conventional (known-art) web site, ebaY.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 4A-4E show a third example of pages from a conventional (known-art) web site, ebaY.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 5A-5B show a fourth example of pages from a conventional (known-art) web site, Yahoo!™.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 6A-6G show a fifth example of pages from a conventional (known-art) web site, homeportfolio™.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 7A-7K show a sixth example of pages from a conventional (known-art) web site, ebaY™.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 8A-8F show a seventh example of pages from a conventional (known-art) web site, MSNBC™.com, on which objects are both selected and displayed for viewing one at a time.

FIGS. 9A-9E show a first exemplary embodiment of pages from a present-invention web site on which multiple objects are both selected and simultaneously displayed for viewing using the system and method according to the present invention.

FIGS. 10A-10D show a second exemplary embodiment of pages from a present-invention web site on which multiple objects are both selected and simultaneously displayed for viewing using the system and method according to the present invention.

FIGS. 11A-11C shows a third exemplary embodiment of pages from a present-invention web site on which multiple objects are both selected and

simultaneously displayed for viewing using the system and method according to the present invention.

FIGS. 12A-12E shows a fourth exemplary embodiment of pages from a present invention web site on which multiple objects are both selected and simultaneously displayed for viewing using the system and method according to the present invention.

FIG. 13 show flow chart illustrating the steps of present invention by which digitally stored and presented starting objects and links are multiply selected and their associated dynamically linked destination objects retrieved and presented simultaneously according to the present invention, respectively.

FIGS. 14A-14M show[s] an automated scrolling thumbnail array feature of the present invention, with rows presenting thumbnails of selectable categories of products and a column representing another selectable category, such as a "promotion" category at the right side of the page. Example control buttons are also show to allow users/ views to control/ select the content and scrolling. When the number of thumbnails in a category exceeds what the display-screen or Browser view-frame can fit in, the thumbnails begin to scroll automatically, as soon as the row or column is filled, and loops around the view-frame. Alternately, the auto-scrolling can be programmed to stop, at the end, when all thumbnails have been show. --

Paragraph beginning at page 11, line 13, has been amended as follows:

-- Described is a method and apparatus for the multiple selection of digitally stored and presented starting objects from a starting container, e.g. a web page, and the link-tokens of each selected object for simultaneous presentation and examination of the selected objects with multiple-levels of their associated linked objects and information. Further described is a method and apparatus for an organized and dynamic array presentation for graphical thumbnails. Additionally described is a method and apparatus for sub-framing, which allows for the intelligent partitioning of information associated with an object. In the following description, numerous specific details are set forth in order to provide a thorough understanding of the present invention. It will be apparent, however, to one of ordinary skill in the art that the present invention may be practiced without these specific details. In other instances, well-known architectures, steps, and techniques have not been shown to avoid unnecessarily obscuring the present invention. --

Paragraph beginning at page 12, line 3, has been amended as follows:

-- The multiple selection of digitally stored and presented objects (texts, graphics, lists, catalogs, audio or video segments, etc.,) with their associated dynamic link-tokens (addressing pointers) from any other container of digitally recorded media, such as pages of text or graphics, lists of items, parts, other

objects, symbols, icons, digitally recorded audio or video segments, and the simultaneous presentation, displaying, viewing, and/or examination of the destination objects and/or information linked to these selected starting objects through their associated link-tokens, enable a far more efficient method for viewing, comprehending, comparing, and examining all information pertinent to these selected interested objects. This is in contrast to the prior art, where each interested object is selected one at a time, and its sole link token invoked one at a time, at times at depths of several hierarchical levels of links, to present and exam each interested object and its linked information, one object at a time and one link at a time, and returning by clicking the "Back" button multiple times to the URL address of the starting container/page, where the indices and links to other interested objects reside. Each forward or backward click is compounded by having to wait for the loading of the content of the associated page from the remote storage device(s). --

Paragraph beginning at page 12, line 18, has been amended as follows:

-- Referring now to FIGS. 9A-9E, which show a first exemplary embodiment of the present invention in which rugs from an array [list] of rugs shown in FIGS. 9A-9B can be selected via checking the associated selection check-boxes 92, and clicking the "Submit" 94 button in Fig. 9B so that the dynamically linked associated information pertaining to the selected rugs is simultaneously displayed for viewing as shown in FIGS. 9C-9E. This enables multiple rugs to be

simultaneously viewed and examined at the same time, side-by-side. To "de-select" a particular previously selected rug, can be accomplished by clicking on the "checked" selection check-box. To "null" all previous selections and start over, a viewer can "click" the "Reset" button 96 in Figure 9B, which will erase all "checks" from the previously "checked" check-boxes. In Figures 9C-9E, the larger/detailed pictures of the selected rugs have a predetermined/optimized size, and are arrayed in picture column 98CDE1. The textual information of each of the selected rugs, which may contain further links to audio, video, even more detailed descriptions, or phone connection to the merchant selling the rug, are arrayed in the column 98CDE2 next to the picture column 98CDE1. The transaction information and commands are contained in column 98CDE3, next to column 98CDE2. When and if content of some or all elements of column 98CDE2 and 98CDE3 exceeds the height of the Picture column 98CDE1, a vertical scrollbar 99 would appear at the right side of such elements. --

Paragraph beginning at page 13, line 1, has been amended as follows:

-- Referring now to FIGS. 10A-10D, which show a second exemplary embodiment of the present invention, in which multiple luxury cars from a list of luxury cars shown in FIGS. 10A-10B can be selected from the selection check-box 102 to the left of each listing, so that the dynamically linked associated information pertaining to the selected cars is simultaneously displayed for viewing as shown in FIGS. 10C-10D. This enables [multiple] a multitude of

information regarding the multitude of selected cars to be simultaneously retrieved, displayed, viewed, and compared side-by-side. --

Paragraph beginning at page 13, line 7, has been amended as follows:

-- Graphical thumbnails are frequently used in on-line or other viewable recording media (such as CD ROM) to represent objects that are best represented by an image. Such objects include products[,] such as furniture, painting, rugs, and parts catalogs, just to name a few examples. In the prior art, graphics thumbnails are used either in a linear fashion as shown in FIGS. 6D-6G, random as shown in FIGS. 7A-7H, or semi-random. However, with reference to FIGS. 9A-9F, the present invention dynamically presents a large collection of thumbnails in a two-dimensional array with a selectively adjustable number of columns and rows. This method of presentation allows easy viewing and examination, easy selection, and optimized utilization of screen/media real estate. When the number of thumbnails exceeds what can be shown within the view-frame of the display-screen or Browser, the present invention automatically scrolls the array into view, at user selectable speed. --

Paragraph beginning at page 13, line 16, has been amended as follows:

-- With reference to FIGS. 9D-9F and 10C-10D, sub-framing allows intelligent partitioning of information associated with an object. The dynamic scroll bars allow the orderly arraying and presentation of "primarily textual"

contents associated to a graphical content[. The], where textual content may [have] occupy an area with a length [and] (at a chosen width) that [are] is incompatible to the optimal sizing for the graphic[al "sub-frame."]s. --

Paragraph beginning at page 13, line 21, has been amended as follows:

-- According to an embodiment of the present invention, the multiple selection mechanism, for example, can be effected/represented by a check-boxes 92 and 102 associated with each ["underlined"] "selectable" starting object, as shown in FIGS. 9A-9C and 10A-10B. However, this mechanism can also be implemented by changing the color of the link-token (an underline, a bullet, a dot, a change of shading when touched by the cursor, or any symbolic represent[ing]ation of a [the] link-token), wherein the link-tokens are a first color/shading before being selected, change to a second color/shading when they are selected, and are a third color when the browser "returns back" to the list of link tokens from the simultaneously displayed associated destination objects to select additional link-tokens. The third color differentiates those link-tokens whose associated destination objects have already been selected, retrieved, and simultaneously displayed, from those link-tokens whose associated starting object have not yet been selected, and destination objects have not yet been retrieved and [simultaneously] displayed. A single click by a mouse, for example, can represent[s] select, and the color of the selected token changes to indicate its selected status, whereas a double click of the input device can

represent[s] "submit," and all destination objects linked through the selected tokens are brought forth with the double-click. Another way to accomplish this mechanism is to click left button of the mouse while holding down the right button to select, or vise-versa. The link-tokens selected change color, and a click of the left button without holding down the right button represents "submit" to bring forth the linked destination objects. Or the regular single click on the left button represents "select," and a single or double click on the left button while holding down the right button can represent "submit."--

Paragraph beginning at page 14, line 15, has been amended as follows:

-- In [one] the embodiments of the present invention, each starting object can be linked to three separate destination containers, or a destination container[s are used, wherein each container] contain[s]ing one graphic [file] folder, one text [file] and links folder, and one frame with multiple objects, commands, and multiple link-tokens, each represented as a separate "internal," or "sub" frame with dynamic scroll bars. However, it will be appreciated by those of ordinary skill in the art that the destination object linked to a selected object through the link token can be an object, multiple objects, a container containing multiple objects, or multiple containers each containing multiple objects of various and differing media. The graphics [file] folder portion, for example, can contain multiple links to a set of multiple photographs taken from different angles, a video, an audio description, a music segment, or another textual

description, or an actionable link to forward the photograph to a friend or a relative. Selection and invocation of such a link may spawn a "process" with a separate "pop-up" frame or window, while retaining the "parent" window, or advance the original "parent" window to the uniform resource locator (URL) of the object to which the invoked link-token points. The sub-framing and dynamic scroll bars allow the orderly arraying and presentation of "primarily textual" contents of varied length and width that may [incompatible] not be the same as to the optimal [sizing] height and/or width for the graphics frame. --

Paragraph beginning at page 15, line 8, has been amended as follows:

-- In the embodiment of the present invention shown in FIGS. 10A-10D, multiple car titles and their links are selected from a list. The selections are submitted to retrieve and present the multiple destination objects (in this case, a photograph of the car in one subframe, its textual description in a another sub-frame, and an actionable command and information sub-frame). Each group of destination objects is associated with each starting object (e. g., a selected car title), containing [detailing] information associated with each selected [title] starting object. There is no limitation to the size of the list, the number of selections, the size, content, and number of fields of each destination object, other than the limitation of practicality and the size of the storage device. --

Paragraph beginning at page 15, line 17, has been amended as follows:

-- Clicking on the photograph of the car in Figure 10C-10D, picture-column 10CD1, for example, may provide a separate window detailing enlarged photographs of multiple directional views, a panning and scanning video with sound or audio description of the car, the manufacturer's detailed specifications and drawings, etc. Clicking on the "description" frame in column 10CD2 may bring forth a menu for related articles, third party commentaries, appraisals, detailed maintenance and usage records, etc. Upon clicking the mouse button for a selection or multiple selections, a separate window pops up to display the selected items, for example, the appraisal and the detailed maintenance and usage records. Clicking on the "action/auction" frame in column 10CD3, a menu shows possible selections of [dealer] merchant records[,]/information, customer feedback, bidding history, video-conferencing, telephone or email contact with the merchant, etc. A separate window to display selected items at this level may be spawned when a selection or multiple selections are made. --

Paragraph beginning at page 16, line 5, has been amended as follows:

-- An embodiment of the present invention further contemplates a two dimensional array presentation of graphical thumbnails of objects (paintings, furniture, rugs, lamps, jewelry, clothes, sculptures, machine parts, etc.,) and the multiple selection of their associated links to simultaneously present multiple

destination objects and object fields, such as detailed graphics (which can also be audio or video segments), a textual information window/frame containing additional links, and an actionable command and informational window/frame associated with each selected starting thumbnail. Similar secondary selections are possible from pop-up menus associated with each [object] window/frame as described above. As shown in FIG. 14A, sub-framing the array allows a number of categories to be presented on the computer screen simultaneously; each row or column can represent a category, or a sub-category under a main category. When the content, i.e., number of thumbnails is so large that it can not be viewed in the screen viewing area, the present invention allows the sub-frame to contain a scroll bar to indicate more content beyond the viewing area of the screen in the row or column. An embodiment of the present invention facilitates the automated scrolling of each row or column presented in a sub-frame. The details of the user controllable automatic scrolling are illustrated in Figures 14A-14J, and will be described in further detail later. --

Paragraph beginning at page 16, line 20, has been amended as follows:

-- Referring now to FIGS. 11A-11C, illustrating [show] a third exemplary embodiment of the present invention in which multiple news headlines from a list of news headlines 112 shown in FIG. 11A can be selected by various mechanisms as described previously in this application, so that the dynamically linked associated news stories are simultaneously retrieved and displayed for

viewing as shown in FIGS. 11B-11C. In this particular example, we use the "check-boxes" 114 as a selection mechanism, for visual clarity. In this example, the viewer selects/clicks headline check-boxes 114A, 114B, and 114C for retrieving the detailed information by moving the cursor to "Full Story" 116, and clicking the left mouse-button. This enables multiple headlines to be simultaneously retrieved, viewed and read [at the same time], side-by-side, as shown in Figures 11B. Although in the embodiment shown the associated news stories are displayed in three columns, any practical number of columns can be used. In the embodiment shown, if more than three headlines are selected, for example, six headlines, then the news stories associated with fourth, fifth and sixth headlines selected will appear vertically below (or horizontally next to) the news stories for the first, second and third headlines selected and can be viewed for reading by vertically scrolling down (or horizontally scrolling to the right of) the computer screen. The automatic scrolling feature of the invention scrolls the content for the browser when the browser moves the cursor [beyond the screen towards the] to the bottom (for vertical scrolling down beyond the current screen), or to the right (for horizontal scrolling to the right of the screen) of the view-frame. For optimized interface with human eyes, full-stories of each three to five (or more, as dictated by the display-screen size) successive headline selected is displayed in three to five (or more, when display-screen is large) columns [of associated news stories] to each full-screen view-frame in the manner as just described. --

Paragraph beginning at page 17, line 14, has been amended as follows:

-- Referring now to FIGS. 12A-12E, which show a fourth exemplary embodiment of the present invention in which multiple stocks from a list of stocks shown in FIG. 12A can be selected so that the dynamically linked associated graphical, e.g., charts, and alphanumeric, textual, or audio information (analytical, numerical, and competitive data and analysis, news, reports, etc.) are simultaneously displayed for viewing as shown in FIGS. 12B-12E, where charts are arrayed in the left column with the numerical information arrayed in the right column. Alternately, a first set of number of charts can be arrayed in the first row, with the associated numerical information underneath it in the 2nd row, and then array the next sequence of charts in the 3rd row, with the associated numerical information arrayed in the 4th row. This enables information regarding the selected stocks to be simultaneously retrieved, viewed and compared at the same time, side-by-side. When a first one of the simultaneously displayed charts, for example one of the charts shown in FIG. 12B, is selected using a computer input device such as, by clicking a computer mouse or a light-pen, while pointing to the chart, the selected chart is made larger [than the other simultaneously displayed charts] 122, with an added trading-volume chart, as shown in FIG. 12C. More detailed numeric data can be shown along with the enlarged chart in the now also enlarged associated right-side area available. When a second one of the simultaneously displayed charts is selected using the input device, the first chart can either remain enlarged, or

returns to its original smaller size which is the same as all of the other simultaneously displayed charts, while [and] the second chart is made larger than the other simultaneously displayed charts. Figures 12D and its continuation print Figure 12E shows the first alternative, where both of the selected stocks/charts remain enlarged with further details shown simultaneously. -

Paragraph beginning at page 18, line 6, has been amended as follows:

-- Referring now to FIG. 13, [shows] a flow chart illustrating the steps by which [multiple] the present invention presents a multitude of digitally stored [and presented] objects, and selecting a multitude of the links that associate these objects to further information—the [and their] associated dynamically linked destination-objects; and then retrieve[ed] and [displayed] present, the multitude of destination objects simultaneously for convenient viewing [according to the present invention] and comparison. A multitude of links in an electronically stored and array-presented page 132A, can be selected at will, as exemplified by the checked check-boxes in 132B, and then submitted simultaneously by clicking a "Submit," or similar command button 134. The electronic/computing device would then, alone or in conjunction with the network of connected electronic/computing devices, retrieve and brings forth all linked destination objects, including information and command facilities, according to the selected links in 132B, and present them on the device screen in a new window 136A. The information and command facilities are organized in sets of sub-frames 136B,

grouped together according to the corresponding starting link in 132. A multitude of links can be selected from the multitude of links 138A in this new window/page 136A. As the viewer/user completes the selection process, a "Submit" (or the like) command button 138B on this page can be clicked to cause all next level linked information/command-facilities to be brought forth with yet a new page or new window 138C. The process continues henceforth. The present invention saves tremendous cumulative wait time and laborious process from the prior-art. For returning to review previous pages, the present invention, when implement with strategic new windows for new pages, has the added advantage of quickly returning to view prior pages on the display screen by minimizing a present top-view window. This can also be accomplished by clicking a particular prior page-window's corresponding access bar located at the bottom of a Browser, if the particular page-window is not partially visible (while over lapped by the current page-window in the foreground). If the particular page-window is partially visible, the viewer can "click" on any place of the visible portion of the page/window, which instantly causes the page-window to be displayed in the foreground. The prior art requires that the viewer/user to enter the URL address of he particular prior page he/she wishes to be displayed, or to click the "Back" button on the Browser tool bar located at the top portion of the Browser, and wait for the immediate previous-page to load on the display screen. Viewer must scan the page to see whether it is the particular page he/she wishes to retrieve. In the prior-art, if a particular page the viewer wishes to

retrieve is many link-levels back from the present page, the viewer must repeat this "back-and-wait" process as many times. -

Paragraph beginning at page 18, line 9, has been amended as follows:

-- Referring now to FIG. 14A-M, which shows the sub-framing and arraying features of the present invention, [which] allowing a [number] multitude of categories with a large number of objects within each category to be presented on [the computer] any electronic device display screen simultaneously by one-click. Beyond what can be simultaneously shown in one full view-frame of the display screen, additional objects are automatically sequenced/scrollled into view. Many more rows and columns than can be contained in a single screen/view-frame of the device can be accommodated, and viewed by manual or automatic scrolling. Each row or column can [represent] display a category, or a sub-category under a main category. The starting categories can first default to the viewer's last selections, or the site-operator's objectives. Each row/column's content is selectable/changeable by the viewer, facilitated via the "Category" 144 button in each row/column. When a viewer moves the cursor onto a "Category" button 144 in a particular row or column, a data entry box and a nested cascading category tree appears, one-level after another. A viewer can either enter a category name via the data entry box, or select from the nested cascading category tree, as shown later in Figure 14E and 14F.

Referring now to Figure 14A through 14D, w[W]hen the content, i.e., number of thumbnails, is more numerous than can be accommodated in one screen viewing area, the present invention allows the sub-frame to contain a

scroll bar 141a, 141b, 141c, 141d to indicate that there is more content beyond the viewing area of the screen in the corresponding row or column. The lengths of scroll bars 141a, 141b, 141c, and 141d indicate the ratio of the numbers of the thumbnails already scrolled through the viewing area of the row/column plus those presently displayed in the viewing area, versus the number of additional thumbnails that are beyond the right-edge of the row (or bottom edge for a column) of the view-frame, and yet to come into view from the right (or bottom) side. Alternately, within the present invention, one can implement the scroll bars as floating scroll bars not attached to the triangle manual scroll pointers 142a1 and 142a2, 142b1 and 142b2, 142c1, 142c2, and 142d1, 142d2 at either ends of the corresponding scroll bars, (see Figure 14B). The shaded portion of the scroll bar in the "floating" manifestation would have a length when compared with the full-length of the scroll bar, represents the proportion of the number of thumbnails that are currently visible within the view-frame versus the total number items/thumbnails in the category the row is assigned to display. The position of the floating scroll bar indicates the position/ordering of the thumbnails presently shown in the display view-frame relative to the entire ordered array of all thumbnails in that category row/column. The length of unshaded portion represents the proportion of the total number of the thumbnails in the corresponding category-row/column that are beyond the right edge of the view-frame, and yet to be scrolled into the view-frame. The current invention [also] facilitates the automated scrolling of each row or column presented in a

sub-frame[.], commenced when the row or column display space is filled. All rows/columns can be scrolled at the same time, either at the same or different speeds. Alternately, one can auto-scroll one row or one column at a time, or any combination of the number of rows and columns. The scrolling of the thumbnails in each row/column can be controlled via control buttons, for example, selectively started or stopped via the "STOP" 146 button and "GO" 148 buttons. The speed of the scrolling of the thumbnails can be selectively increased or decreased, facilitated by the "Faster" and "Slower" buttons 152. The thumbnails can be scrolled either vertically as shown in column(s) 140d, or horizontally as shown in rows 140a, 140b, 140c, to the left or to the right via the "LEFT" and "RIGHT" buttons 156 for rows, or up and down via the "UP" and "DOWN" buttons 158 for columns.

Figures 14A (at time 0) and 14B (at time 1) are snapshots showing row 1 scrolling (notice the shift of the positions of the thumbnails in the row), while rows 2 and 3 remain stationary. Figure 14C (time 1) is a snapshot showing rows 1 and 2 scrolling (referencing to Figure 14A at time 0) while row 3 remains stationary. Figure 14D shows all three rows scrolling. The automate scrolling manifests in the time-1 snapshots 14B, 14C, and 14D is shown in the shifting of thumbnail positions and display of additional thumbnails (those out-of-view in time-0 snapshot Figure 14A) at the right side of the rows, and the left side thumbnails previously in view in Figure 14A are now out-of-view in Figure 14B, 14C, and 14D correspondingly.

Referring now to Figure 14E, which illustrates the “nested cascading category menu” of this invention, with multiple-select feature. When the viewer moves the cursor to the “Category” button 144, the first level category menu 160a appears. When the viewer moves the cursor to a particular category, such as “Vehicles” 162, the next-level category menu 160b appears, listing the categorical choices underneath the particular 1st level category “Vehicles” 162, which now becomes highlighted. Similarly, when the viewer moves the cursor to a particular category in the 2nd level menu, such as “Minivan” 164, a 3rd level category menu appears next to the 2nd level menu, with the particular 2nd level category “Minivan” 164 now also highlighted. The highlights show the hierarchy of the cascading menu. Alternately, the viewer can enter a particular category title in the “Enter Category” entry-box 161, and skipping the nested cascading category menu. At the time of this invention Microsoft operating system produces a single-level cascade in its “Start” up menu, and some of its tool menu items, no entity, and no website has programmed or produced any cascading menu using/within the Browser environment.

The example selection made in Figure 14E is “Minivan” 164. When the viewer checks the check-box in front of “Minivan” 164, and clicks the “See Them” 166 button below, the thumbnails of all of the subcategories as shown in 160c are brought forth from the database, displayed and scrolled in this particular row in the manner described earlier in this disclosure, as shown scrolling in row 140b in Figure 14F.

Returning now to Figure 14E, the nested cascading menu contains the multiple-select feature of this invention. The viewer can select a single subcategory, or a multitude of subcategories from the 2nd level (or any subsequent levels) category-menu. The viewer can click on the "check box" to the left of each category to indicate selection, or use any of the previously described (or any other) alternate methods, such as click on the category title, which would change color to indicate selection. When the viewer completes the selection of a multitude of categories, he/she clicks the "See Them" button 166, to submit the selection, which causes the computing device to retreat the thumbnails of all selected categories from the connected storage devices, and display them in that row or column in the manner of the present invention. If the viewer clicks the "See Them" button 166, without making selections from the present menu, all of the categories in that menu are displayed.

Referring now to Figures 14G through 14M2, illustrating how information and transaction regarding a multitude of interested thumbnails can be retreated and displayed. As illustrated in Figure 14G, when the cursor is moved on top of a particular thumbnail 172 in a row or a column, the scrolling of that row/column stops, and the relative position of that particular thumbnail in the total number of thumbnails in that row/column-category, along with a brief high-level description 174 of the object pictured by the particular thumbnail is displayed adjacent to the thumbnail. When the cursor is moved away from the thumbnail and the pausing row/column, the high-level description 174

disappears, and the automatic scrolling resumes. When the viewer decides that the object is of interest from the high level description 174, the viewer "clicks" the input device while the cursor is rested on the thumbnail of the object. A larger and more detailed picture of the object along with detailed descriptions and other links to further information and relevant commands (such as buying, selling, or contact seller commands) is displayed in a sub-frame/window 173 as shown in Figure 14H. When the user/viewer continues to "overview" the scrolling thumbnails, and finds other interesting thumbnails from the overview, he/she repeats the process by moving the cursor onto the next interested thumbnail 186 shown in Figure 14I, the high-level description 188 of the thumbnail would pop up next to this object, as shown in Figure 14I. Each time, when an interested thumbnail is "clicked," a new sub-frame/window pops up to show the large picture and the detailed information of the object represented by the particular thumbnail, while the previous such sub-frames/windows, of previously clicked thumbnails can be automatically minimized, or pushed to the background, and leaving in view only the new sub-frame containing the detailed information and command links of the object represented by the most recently clicked thumbnail, as shown in sub frame 192 in Figure 14J. This is for the purpose of preserving the maximum viewing of the thumbnail arrays. Any and all sub-frames can be clicked to the foreground for comparison amongst one-another, or all together. Each sub-frame/window can contain a multitude of command buttons 194 that can be "clicked" to perform tasks, for example: (1) to

close the individual sub-frame/window, (2) to close "ALL" such sub-frames/windows that are minimized or in the background, (3) to show "ALL" such sub-frames/windows of objects selected in the session (as shown in Figure 14I) into the foreground as shown in Figure 14L, and (4) to "submit" request to obtain further information and relevant command links. These particular command buttons are shown as an example, but do not limit the type or number of command buttons that can be implemented in such sub-frames. The thumbnails that have been clicked for its detail-information sub-frame are highlighted as shown in Figure K, as long as the thumbnail's sub-frame has not yet been "closed" out. When a viewer clicks the "Show All" command button in a sub-frame, all of the sub-frames in the background, along with the ones in the foreground would be displayed on the screen with a programmable desired ordering. Figure 14L shows a left-to-right and top-to-bottom ordering according to the order of "clicking." The large picture, further information, and buy/sell command frames of the "submitted" objects (or any other desired connected information and commands) are presented in the ordered array fashion as previously described, and shown in Figures 14M1-M2. The ordering of the presentation can be programmed in the present invention to be in reverse order--the last selected item to be at the top of the array presentation, and the first selected at the bottom of the array-in contrast to the shopping-cart software of prior-art, where the first purchase item is always listed at the top list of "bought

items" in the shopping cart, and the last bought item is always at the bottom of the list. --

Paragraph beginning at page 18, line 20, has been amended as follows:

-- The method and apparatus described herein has many applications, including, but not limited to, 1) storing, selecting, presenting, viewing, examining, and navigation of electronic commerce catalogs in categories, movies, videos, music CDs/Tapes/DVDs, books, other items, other merchandise, and services, 2) storing, selecting, presenting, viewing, and navigation of digital recording of software, equipment manuals, manufacturing, repair, and maintenance instructions, products/parts catalogs, and 3) storing, presentation, reading, listening, viewing, and navigation of digitally recorded books, journals, dictionary, encyclopedia, news, and audio, video, or any other digitally recorded media. A truncated (shorter) or non-truncated (full-length) self-scrolling row or column can also be used, with or without the control buttons, for advertising and promotions. --